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From: Carlton H. Ho I
Texas Instruments Incorporated
Facsimile: 972-917-4418
Phone: 972-917-4365

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MAY 17 2004

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

OFFICIAL

Applicant: David J. Hoyle
Serial No: 09/542,888
Filed: 4/4/2000
Art Unit: 2124
Examiner: C. Ngo
Docket No.: TI-28591
Conf. No.: 5971
Customer No.: 23494

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FACSIMILE COVER SHEET

<input checked="" type="checkbox"/> FACSIMILE COVER SHEET (1 SHEET)	<input type="checkbox"/> AMENDMENT
<input type="checkbox"/> NEW APPLICATION	<input type="checkbox"/> EOT
<input type="checkbox"/> DECLARATION	<input type="checkbox"/> NOTICE OF APPEAL
<input type="checkbox"/> ASSIGNMENT	<input checked="" type="checkbox"/> APPEAL <u>Supplemental Brief</u>
<input type="checkbox"/> FORMAL DRAWINGS	<input type="checkbox"/> ISSUE FEE
<input type="checkbox"/> INFORMAL DRAWINGS	<input type="checkbox"/> REPLY BRIEF (IN TRIPLICATE)
<input type="checkbox"/> CONTINUATION APP'N	<input checked="" type="checkbox"/> Request to Reinstate Appeal
<input type="checkbox"/> DIVISIONAL APP'N	
NAME OF INVENTOR(S): David J. Hoyle	
TITLE OF INVENTION: Fast Fourier Transform	
TI FILE NO.: TI-28591	DEPOSIT ACCT. NO.: 20-0668
FAXED: 05/13/2004 DUE: 05/13/2004 ATTY/SECY: CHH/gs	
RECEIPT DATE & SERIAL NO.: Serial No.: 09/542,888 Filing Date: 4/4/2000 Conf. No.: 5971	

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Texas Instruments Incorporated
PO Box 655474, M/S 3999
Dallas, TX 75265

MAY 17 2004

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

OFFICIAL

Appl.No.: 09/542,888
Applicant: Hoyle
Filed: April 4, 2000
TC/A.U. 2124
Examiner: Ngo

Confirmation No.: 5971

Docket No.: TI-28591
Cust.No.: 23494

REQUEST TO REINSTATE APPEAL

Commissioner for Patents
P.O.Box 1450
Alexandria VA 22313-1450

Sir:

Pursuant to Rule 193(b)(2)(ii) applicant hereby requests reinstatement of the appeal filed 10/31/2003 and submits the accompanying supplement appeal brief. The applicant had filed a notice of appeal 10/31/2003 and an appeal brief 12/30/2003. The Examiner reopened prosecution with a new final rejection mailed 2/13/2004.

Respectfully submitted,



Carlton H. Hoel
Reg. No. 29,934
Texas Instruments Incorporated
PO Box 655474, M/S 3999
Dallas, Texas 75265
972.917.4365

MAY 17 2004

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

OFFICIAL

Appl.No.: 09/542,888
Appellant: Hoyle
Filed: April 4, 2000
TC/A.U. 2124
Examiner: Ngo

Confirmation No.: 5971

Docket No.: TI-28591
Cust.No.: 23494

SUPPLEMENTAL APPEAL BRIEF

Commissioner for Patents
P.O.Box 1450
Alexandria VA 22313-1450

Sir:

The attached sheets contain the Rule 192(c) items of appellant's supplemental appeal brief. The appellant has requested reinstatement of the appeal, and no fee for filing this supplemental appeal brief is required. However, the Commissioner is hereby authorized to charge any other necessary fees to the deposit account of Texas Instruments Incorporated, account No. 20-0668.

Respectfully submitted,



Carlton H. Hoel
Reg. No. 29,934
Texas Instruments Incorporated
PO Box 655474, M/S 3999
Dallas, Texas 75265
972.917.4365

Rule 192(c)(1) Real party of interest

Texas Instruments Incorporated owns the application.

Rule 192(c)(2) Related appeals and interferences

There are no related dispositive appeals or interferences.

Rule 192(c)(3) Status of claims

Claims 1-6 are pending in the application with all claims finally rejected. This appeal involves the finally rejected claims.

Rule 192(c)(4) Status of amendments

There is no amendment after final rejection.

Rule 192(c)(5) Summary of the invention

The invention provides a method of fast Fourier transform (FFT) implementation using a sequential memory access; this may take advantage of cache memory. Figures 1 and 3 illustrate the sequence of butterfly computations for a preferred embodiment and the prior art, respectively; and application pages 4-5 describe the operations of these figures.

Rule 192(c)(6) Issues

The issues presented on appeal are:

- (1) whether claims 1-4 and 6 are anticipated by the Marchant reference.
- (2) whether claim 5 is patentable over the Marchant reference.

Rule 192(c)(7) Grouping of the claims

The claims are treated as a single group.

Rule 192(c)(8) Argument

(1) Claims 1-4 and 6 were rejected as anticipated by Marchant; the Examiner cited Marchant Fig.3 and column 4, line 66 through column 5, line 19.

Appellant replies that Marchant states at column 5, lines 13-16 that the outputs of the first stage are rearranged in memory; that is, Marchnat performs the N=8 version of the prior art illustrated in application Fig.3. In contrast, independent claim 1 requires no rearranging as illustrated in application Fig.1.

(2) Dependent claim 5 was rejected as unpatentable over Marchant.

Appellant relies on argument (1).

Hence, the claims are patentable over Marchant.

Rule 192(c)(9) Appendix

Claim 1: A fast Fourier transform method, comprising the steps of:

- (a) storing data in sequence in memory;
- (b) partitioning a fast Fourier transform into three or more stages;
- (c) within each of said stages ordering the butterfly computations to correspond to said sequence.

Claim 2: The method of claim 1, further comprising the steps of:

- (a) providing a redundant twiddle factor table including a first set of twiddle factors plus a second set of twiddle factors wherein said second set is a subset of said first set.

Claim 3: A fast Fourier transform method, comprising the steps of:

- (a) providing N-point data where N is a positive integer;
- (b) computing radix-R butterflies in a block of N/R overlapping butterflies of said data where R is a positive integer;
- (c) computing radix-R butterflies in a first block of N/R^2 overlapping butterflies of the results of step (a); and
- (d) after step (c) computing radix-R butterflies in a second block of N/R^2 overlapping butterflies of the results of step (a).

Claim 4: The method of claim 3, wherein:

- (a) R equals 2.

Claim 5: The method of claim 3, wherein:

- (a) R equals 4.

Claim 6: The method of claim 3, further comprising:

(a) providing a redundant twiddle factor table including a first set of twiddle factors plus a second set of twiddle factors wherein said second set is a subset of said first set.